

KINGDOM OF SAUDI ARABIA
MINISTRY OF INTERIOR
HIGH COMMISSION FOR INDUSTRIAL SECURITY

SECURITY DIRECTIVES
FOR INDUSTRIAL FACILITIES

SEC-03

Security Gate



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1.0. Administration

1.1. Scope

This Directive provides the minimum requirements for companies and establishments that are subject to the supervision of the High Commission for Industrial Security (HCIS), Ministry of Interior, for gates to industrial facilities.

1.2. Application

This Directive is applicable to all facilities, including new projects, the expansion of existing facilities, and upgrades. For application to existing facilities, the Operator shall assess his facilities against the requirements of these Directives and coordinate with the General Secretariat of the High Commission for Industrial Security (HCIS) to comply with the Security, Safety, and Fire Protection requirements according to these Directives and add to or modify the existing facilities as required. Where the HCIS has assessed deficiencies in existing facilities during a survey, comparing the current state of the facilities to the requirements of these Directives, those identified deficiencies shall be corrected by the Operator.

1.1. Conflicts & Deviations

Where implementation of a requirement is unsuitable or impractical, where other equivalent company or industry Standards and Codes are followed, or where any conflict exists between this Directive and other company standards and Codes, the deviations shall be resolved by the HCIS. Deviation lower than the requirements of this directive shall be listed and submitted in a report of compliance or non-compliance, with justification and reason, for each applicable requirement of these security directives, and approval shall be received from the HCIS prior to implementation. The documents shall be retained by the company in its permanent engineering files.



2.0. Definitions

HCIS	High Commission for Industrial Security. The HCIS is part of the Ministry of the Interior. It is responsible for the development, and implementation, of security, safety and fire protection strategies Kingdom-wide.
Operator:	Company or owner of a facility.
Shall:	Indicates a mandatory requirement.
Should:	Indicates a recommendation or that which is advised but not required.
UPS	Uninterruptible Power Supply An uninterruptible power supply (UPS), also known as an uninterruptible power source, is a device which maintains a continuous supply of electric power to connected equipment by supplying power from batteries when utility power is not available.
Auxiliary Gate	A steel gate installed close to the gate house to permit the closure of gatehouse vehicle or pedestrian lanes when they are not being used.
Chicane	A sharp double bend created by placing barriers on the road or by design of the roadway.
CMU	Concrete Masonry Unit A Concrete masonry unit (CMU) [US], concrete block, or breeze block [UK], cinder block or foundation block [US], clinker block (if bottom ash or clinker is used as an aggregate) is a large rectangular brick used in construction. Concrete blocks are made from cast concrete, i.e. portland cement and aggregate, usually sand and fine gravel in the case of blocks. They are formed typically in the shape of two squares joined on one side to form a rectangle, with the insides of the squares hollow.
FDB	Final Denial Barrier The FDB is a certified crash barrier constructed inside the facility that can stop vehicles if they penetrate the gatehouse



	area.
LAN	Local Area Network
NIJ	National Institute of Justice
PIC	The preliminary inspection checkpoint (PIC) permits the interdiction of vehicles at a distance from the main gatehouse and provides early warning to main gate personnel of potentially hazardous payloads.
PTZ	Pan / Tilt / Zoom A method for mounting cameras whereby the camera can be panned, tilted or zoomed from a remote location.
VASM	Vehicle Approach Speed Management (VASM) limits the speed of vehicles approaching a gatehouse by the incorporation of design features in the approach road.

3.0. References

This directive adopts the latest edition of the references listed.

The selection of material and equipment, and the design, construction, maintenance, operation and repair of equipment and facilities covered by this Security Directive shall comply with the latest edition of the references listed in each Security Directive, unless otherwise noted.

NFPA 70	National Fire Protection Association: National Electrical Code
ANSI C2	American National Standards Institute (ANSI)/ Institute of Electrical & Electronics Engineers (IEEE): National Electrical Safety Code
NIJ 0108.01	Ballistic Resistant Protective Materials



4.0. General Requirements

The gate architecture specified in this Security Directive specifies the minimum requirements for gates to facilities.

The gate architecture is based on managing the approach to a facility, inspection and response. Collectively these facilities are referred to as the “security gate” and the layout comprises the gate architecture. The gate architecture consists of the elements to manage the approach, inspection and response of vehicles and pedestrians to a facility.

Full containment and control of all vehicles and personnel is required at all gates. This shall be achieved through a combination of active and passive barrier systems managed by on-site security personnel.

Each element is detailed in the following sections.

4.1. Preliminary Inspection Checkpoint (PIC)

The function of the PIC is to permit the interdiction of vehicles at a distance from the main gatehouse and provide early warning to main gate personnel of potentially hazardous payloads.

The requirement for the PIC at any facility shall be jointly determined by the Operator and HCIS. The PIC shall be manned by government forces.

The PIC shall meet the following requirements:

4.1.1. The PIC shall be located at least 300m before the main gate of the facility.

4.1.2. Traffic approaching the PIC, and all the way through the main gate, shall be channelized using medians, or other separation obstacle, to divide incoming and outgoing traffic. The median height shall be at least 152mm.

The median shall start at least 10m before the PIC.

4.1.3. The PIC shall have checkpoint lighting installed as specified in SEC-04 “Lighting”.



- 4.1.4. Parking for at least 5 full sized vehicles, as generally encountered at the facility, shall be provided adjacent to the PIC. Additional parking shall be catered for if traffic estimates require it.
- 4.1.5. The PIC shall be within line-of-sight of the main gate operated by the Operator. If the PIC is not within line-of-sight due to terrain or other considerations, a hotline between the main gate and PIC shall be established.
- 4.1.6. The PIC shall be located so that there are no alternate routes between the PIC and the main gate.

4.2. Vehicle Approach Speed Management (VASM).

- 4.2.1. The roadway approaching a gatehouse shall have a chicane or zigzag design to retard the speed of incoming vehicles. This may be augmented by additional speed retardation devices and designs if so required by the Operator. A 90 degree turn leading to the gatehouse shall be an acceptable alternative to the chicane.
- 4.2.2. Where space for a chicane is not available the Operator shall utilize other speed control devices to implement the intent of the VASM.
- 4.2.3. The chicane shall be designed in such a fashion that traffic shall be forced to slow down while traversing the chicane. The VASM shall be designed so that the maximum speed through the VASM for an ASTM 2656 M50 (15,000 lbs@50mph) or a PAS68 (7500kgs @ 80kph) vehicle (see SEC-06, section 4.3.3) shall be no more than 48kph.
- 4.2.4. The approach to the gatehouse after the chicane shall be no longer than 50m in order to minimize the distance the vehicle has available to accelerate to the gatehouse.
- 4.2.5. The sides of the roadway in the chicane shall have barriers that shall prevent a vehicle from driving or cutting across the chicane.
- 4.2.6. The chicane shall be designed to allow long loads and articulated loads to pass safely through. Any design elements that facilitate the passage of such loads shall not compromise the intent of the VASM.
- 4.2.7. The VASM shall not obstruct the line-of-sight between the PIC and main gate.



4.3. Auxiliary Gate

- 4.3.1. The auxiliary gate shall provide the capability to shutdown pedestrian or vehicle lanes or the entire gate as needed.
- 4.3.2. When the auxiliary gate is deployed to close a lane or lanes, the crash barriers in those lanes must be deployed. Closure of a lane may be for administrative or maintenance purposes.
- 4.3.3. It shall consist of a steel gate that can be used to close selected entry or exit lanes or to close all lanes when they are not needed.
- 4.3.4. Chain link gates shall not be acceptable.
- 4.3.5. The auxiliary gate shall be designed to prevent any person entering the facility when the gate is closed.
- 4.3.6. The Operator shall ensure that anti-personnel measures are incorporated in the gate design to prevent an intruder from entering through or climbing over the gate when it is closed.
- 4.3.7. Gates shall be constructed of strong steel elements that present a reasonable degree of anti-vehicle protection.
- 4.3.8. The auxiliary gate shall be at least 3.0m high and shall be able to cover all lanes. Multiple segments shall be used for the gate.
- 4.3.9. The auxiliary gate shall be located on the outside of the facility and within 3m - 10m of the gatehouse.
- 4.3.10. All gate segments shall have positive locking mechanisms to retain gate integrity and security.
- 4.3.11. Locks used on this gate shall be fully compliant with SEC-10 "Locks".
- 4.3.12. The gate shall use either a motorized sliding or swing mechanism for deployment depending on what is recommended by the risk assessment or by HCIS.

4.4. Gatehouse

The gatehouse shall house security personnel and security system components to manage access to the facility.



4.4.1. The gatehouse shall be sized to accommodate security personnel assigned to the gate. Gatehouse sizing shall be approved by HCIS prior to construction.

4.4.2. The gatehouse windows shall comply with the requirements for ballistic-resistant glass specified in SEC-06 "Security Devices".

Windows for document inspection are permitted as long as they comply with the requirements of SEC-06 "Security Devices". All openings in the windows shall comply with the requirements of SEC-06 "Security Devices".

4.4.3. The walls of the gatehouse shall provide ballistic protection to level IIIA of NIJ 0108.01.

The walls shall be constructed of CMU. The CMU openings shall have a steel rebar mesh and shall be filled with grout in every core of every block. Solid walls or steel walls shall be permitted as long as they provide the required level of ballistic protection.

Alternative methods of construction, such as prefab panels, prefab gatehouses or polymer reinforcements, shall be acceptable as long as ballistic protection to level IIIA of NIJ 0108.01 is provided.

This protection level shall be certified by the manufacturer when prefab construction is used. This certification shall be traceable to a recognized source.

4.4.4. The gatehouse shall have 360° degree visibility.

4.4.5. The gatehouse shall be installed on a base raised a minimum of 500mm above the roadway.

4.4.6. The side of the gatehouse facing the outside and inside shall be protected by a concrete barrier.

This barrier shall be located on the gatehouse base and consist of a raised circular barrier at least 70cm high across the full width of the gatehouse. It shall be constructed of steel reinforced concrete anchored 300mm below grade to increase resistance to impact. The barrier height shall not impede visibility from the gatehouse. The barrier shall be located within 3m of the gatehouse building.

4.4.7. All entrances to the interior of the gatehouse shall be on the sides of the gatehouse facing inside the facility.



- 4.4.8. Gatehouse interior lighting shall comply with the requirements of SEC-04 "Security Lighting".
- 4.4.9. The gatehouse shall have LAN connectivity that connects the gatehouse to the corporate network.
- 4.4.10. All electrical switchgear for gatehouse devices shall be on the side of the gatehouse facing inside the facility or off to the side inside the perimeter fence and within 5m of the gatehouse.
- 4.4.11. Power to the gatehouse shall clearly distinguish between commercial power and UPS power by the use of distinct outlets for each power source. Power outlets sourced from UPS power shall only be used for designated security devices and no extra outlets, other what are required, shall be installed.
- 4.4.12. Power to the gatehouse and all security devices shall comply with the requirements of SEC-07 "Power Supply".
- 4.4.13. The gatehouse shall have adequate clearance above the windows to permit installation of large screen displays for security systems without impeding the view from inside the gatehouse.
- 4.4.14. The area above the gatehouse and inspection lanes shall be covered with a sunshade. The sunshade shall have adequate clearances to allow trucks and vehicles to enter the facility.
- 4.4.15. An audible and visual alarm shall be provided that shall be activated during an emergency.

The sunshade shall extend to an adequate distance on both sides of the gate to cover positions where security personnel will conduct inspections. The sunshade extension to cover these positions shall allow for gate orientation and the suns position to optimize coverage at all times of day.

Activation of the alarm shall be by a pushbutton in the gatehouse. The pushbutton shall be protected against accidental activation but shall not be locked at any time.

Activation of the alarm shall annunciate an alarm at the Security Control Center that is monitoring the gate.



4.4.16. An X-ray unit, compliant with SEC-06 “Security Devices” shall be installed close to the gatehouse for inspecting packages entering the facility. The X-ray unit shall be installed so that it does not obstruct gatehouse visibility and it shall be housed in an environmentally controlled enclosure.

4.5. Traffic Management

4.5.1. Each lane in the gatehouse inspection area shall have medians separating each lane of traffic. The medians shall be sized to allow installation of equipment and permit a safe location for personnel to stand on. The height of the median shall be sized as needed for operational needs but shall be at least 152mm high.

4.5.2. The traffic management design shall incorporate a rejection lane where vehicles denied access shall be able to turn around without entering the facility. The rejection lane turning radius shall be sized for the largest vehicle expected to enter the facility.

4.5.3. There shall be adequate parking on the inside and outside of each gate to allow parking of gate personnel and visitors without obstructing traffic flow.

4.5.4. Each lane shall have a clearly visible traffic light type setup that will inform users from a distance if a lane is open or closed.

4.5.5. All lanes and traffic flow directions shall be clearly marked on the roadway.

4.5.6. Roadway containment in the inspection area shall prevent inbound vehicles from unauthorized access and shall extend from the inspection area to the final denial barrier where deployed.

The containment shall consist of passive barriers on either side of the roadway that shall deny a vehicle entry to the facility until past the final denial barrier. The passive barriers on either side of the roadway shall be rated the same as the final denial barrier.

Lower classified facilities that do not use final denial barriers shall use roadway containment to ensure traffic follows an orderly flow along the proper roadway.



4.6. Additional Inspection Area

- 4.6.1. The additional inspection area is a space where detailed inspections or document inspection can be carried out without obstructing traffic flow.
- 4.6.2. There shall be adequate space adjacent to the gatehouse for gate security personnel to conduct additional vehicle inspections without obstructing traffic flow.
- 4.6.3. A shaded or enclosed location shall be provided in the additional inspection area where K-9 services shall be located when needed by the local security requirements.
- 4.6.4. The additional inspection area shall be located as close as possible to the gatehouse.
- 4.6.5. This area shall always be within line-of-sight of gatehouse personnel.

4.7. Overwatch

The overwatch position sets up a location where heavy, mounted weapons can be deployed to support gatehouse personnel. Manning of the overwatch position shall be at the discretion of the Operator, HCIS and Saudi Government security agencies assigned for facility protection.

- 4.7.1. The Operator shall establish an overwatch position, covered with a small sunshade, that will allow additional mounted weapons to be deployed with the gatehouse in clear line of sight.
- 4.7.2. The overwatch position shall be within 300m of the gatehouse and shall be located within the facility.
- 4.7.3. Where possible, the overwatch position shall be located at a higher vantage point to provide an unobstructed field of fire to support gatehouse security personnel.
- 4.7.4. Overwatch positions shall only be required at main gates to facilities.



4.8. Support Building

Support buildings are used to house gate related systems and facilities. They shall be located within the perimeter fence.

- 4.8.1. Gates with access control system or intrusion detection system deployments shall require a support building with toilet facilities and rooms for security system installation.
- 4.8.2. Gates without access control system or intrusion detection system deployments shall only require toilet facilities in a support building if the nearest existing toilet facilities are more than 20m away.
- 4.8.3. Network equipment shall be installed in a dedicated room in the support building or, if space permits, in the gatehouse. Equipment installed in the gatehouse shall not interfere with gatehouse operations or affect visibility.
- 4.8.4. The buildings housing security system components shall be of CMU with rebar and grout in every core of every block or reinforced concrete construction.
- 4.8.5. Entry doors shall be fully compliant with the requirements of SEC-09 "Security Doors".
- 4.8.6. Locks shall be fully compliant with SEC-10 "Security Locks".
- 4.8.7. The entry door to the room housing security system components shall be within line-of-sight from the gatehouse.
- 4.8.8. The environmental system shall comply with the requirements of SEC-05 "Integrated Security System" for housing security system components.

4.9. Communications

- 4.9.1. Communication systems deployed at the gatehouse shall comply with the requirements of SEC-08 "Communications".
- 4.9.2. SEC-08 "Communications" compliant hotlines and radios shall be provided to the security control center and other facilities as needed.



4.9.3. Each gatehouse shall have at least 2 dedicated telephone lines.

4.10. Lighting

4.10.1. The gate area, starting with the PIC and up to, and including the area under the gatehouse sunshade, shall have checkpoint lighting installed that is fully compliant with SEC-04 "Lighting".

4.10.2. The area along the roadway centered at the gatehouse and 100m on both the entry and exit side shall have area lighting installed that is fully compliant with SEC-04 "Lighting".

4.11. Environmental

4.11.1. All enclosed structures deployed for compliance with the requirements of this Security Directive shall have air conditioning that is fully compliant with SEC-01 "Application of Security Directives".

4.11.2. All equipment deployed for compliance with the requirements of the Security Directives shall be certified for extended, continuous operation under the environmental conditions stated in SEC-01 "Application of Security Directives".

4.11.3. The gatehouse shall be air conditioned to meet the environmental requirements specified in SEC-01 "Application of Security Directives".

4.12. Access Management

4.12.1. Operator shall develop documented procedures for vehicle, pedestrian and documentation inspection in each lane. Security personnel shall execute this procedure at the gatehouse after receiving adequate training as specified in SEC-01 "Application of Security Directives". The procedures shall be available in the gatehouse for inspection by HCIS.



- 4.12.2. The area around the gatehouse and around the entire perimeter shall be fenced so that visitors cannot enter the facility without being cleared by gatehouse personnel.

All entry points in the gatehouse area leading into the facility shall be fenced off with gates where needed. Fences shall be adequately sized to deter any attempt to climb them.

- 4.12.3. All access management devices deployed for implementing Security Directives shall meet the requirements of SEC-05 "Integrated Security System" and SEC-06 "Security Devices".
- 4.12.4. Operator shall implement an X-ray examination system using X-ray units fully compliant with the requirements of SEC-06 "Security Devices". This X-ray system shall be used to examine all packages entering the facility.
- 4.12.5. No personal vehicles shall be permitted in restricted areas.
- 4.12.6. Gates leading into industrial facilities shall deploy access control systems as specified in SEC-05 "Integrated Security System".

4.13. Surveillance Cameras

- 4.13.1. Operator shall use fixed cameras for surveillance and PTZ cameras for assessment in the gate area.
- 4.13.2. These cameras shall have an adequate field of view and focal length to view both sides of the gate and the gatehouse. They shall have a clear view of pedestrian and vehicle traffic entering and exiting the facility.
- 4.13.3. Cameras shall be monitored at the security control center monitoring the facility.
- 4.13.4. Security control center personnel shall be provided with a full set of controls to manage and view the PTZ camera imagery.



4.14. Response Zone

4.14.1. The response zone is the area past the main gate house where security personnel can activate a Final Denial Barrier (FDB) which shall prevent unauthorized vehicles from entering the facility after passing the inspection point.

Typically the FDB shall be a certified vehicle crash barrier fully compliant with the requirements of SEC-06 "Security Devices".

4.14.2. The length of the response zone shall be calculated based on the configuration of the gate.

If the gate always has crash barriers deployed then the crash barriers may be located as needed on the inside of the fence. If the crash barriers are generally retracted then the length of the response zone shall be calculated based on the velocity of the threat vehicle when detected, subsequent rate of acceleration, and the response time.

A shorter response zone length may be used if speed control measures are put in place that limit initial vehicle velocity at the gate.

4.14.3. FDB's shall be located in both entry and exit lanes. FDB deployment shall be via gatehouse personnel or security control center personnel. Retraction of the FDB after emergency deployment shall require a key switch or security control center activation. Keys shall be maintained offsite.

4.14.4. Gatehouse personnel shall have a clear view of the roadway between the FDB and the gatehouse to ensure routine FDB deployment will not cause problems when vehicles are traversing the roadway.

Active sensors shall be used to ensure that vehicles will not be affected by FDB deployment. These sensors shall be wired into the routine deployment switch but shall be ignored if an emergency deployment is activated.

4.14.5. Roadway containment shall be installed from the gatehouse up to the FDB. The containment shall prevent a vehicle from taking any alternate route other than the roadway.



4.15. Gate Clearances

Refers to the minimum distance, past the FDB, at which a critical facility inside a Class 1, 2, or 3 facility may be located.

Critical elements located inside the facility are items such as, but not limited to, main electrical facilities, storage tanks (non water), pump stations, control rooms and processing facilities. Operator shall determine critical elements needed for the facility and ensure clearances are complied with. HCIS shall have the right to designate elements to comply with clearance requirements.

Such critical items shall be located at least 100m-200m past the FDB.

These clearances apply to the distance that critical elements are located from the FDB. This does not apply to non-critical elements which can be located closer to the FDB as long as safety and building codes are complied with.

4.16. Power Systems

All power systems deployed to support facility gates shall comply with the requirements of SEC-07 "Power Supply".

4.17. Temporary Gate Closures

Class 1 & 2 facility gates that are not manned 24/7 shall have surveillance cameras and intrusion sensors that are activated when the gate is unmanned. The cameras and sensors shall be monitored at the local security control center. The cameras and sensors shall provide the same level of monitoring as the rest of the perimeter.



5.0. Application of Requirements

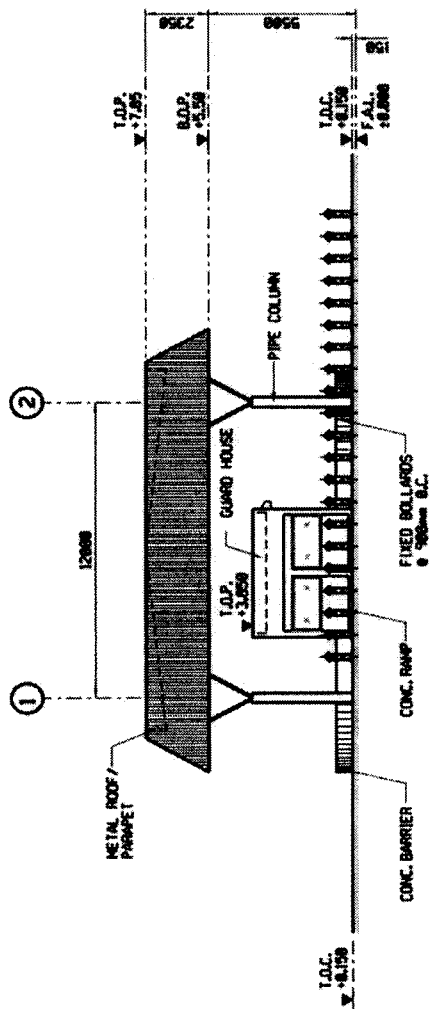
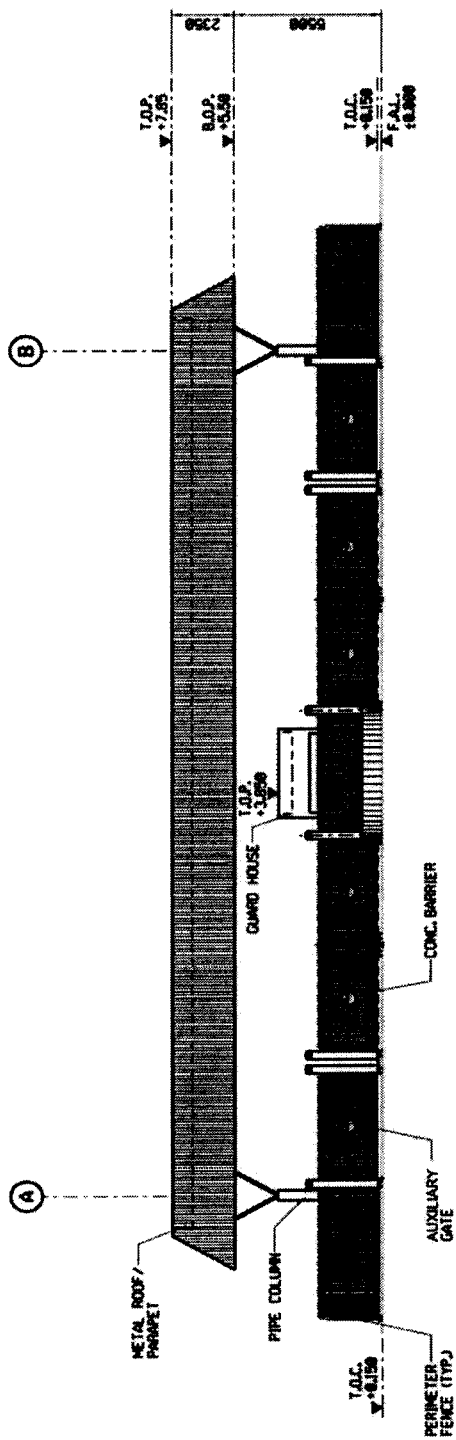
This section lists how the elements of this security directive apply to facilities depending on their classification using the criteria stated in section 4.2 of SEC-01.

ELEMENT	APPLICATION			
	Class 1	Class 2	Class 3	Class 4
Preliminary Inspection Checkpoint (PIC)	✓	✓		
Vehicle Approach Speed Management (VASM)	✓	✓	✓	
Auxiliary Gate	✓	✓	✓	✓
Gatehouse	✓	✓	✓	✓
Traffic Management	✓	✓	✓	
Additional Inspection Area	✓	✓		
Overwatch	✓	✓		
Support Building	✓	✓	✓	✓
Communications	✓	✓	✓	✓
Lighting	✓	✓	✓	
Environmental	✓	✓	✓	✓
Access Management	✓	✓	✓	✓
Surveillance Cameras	✓	✓	✓	
Response Zone	✓	✓		
Gate Clearances	✓	✓	✓	
Power Systems	✓	✓	✓	✓
Temporary Gate Closures	✓	✓		



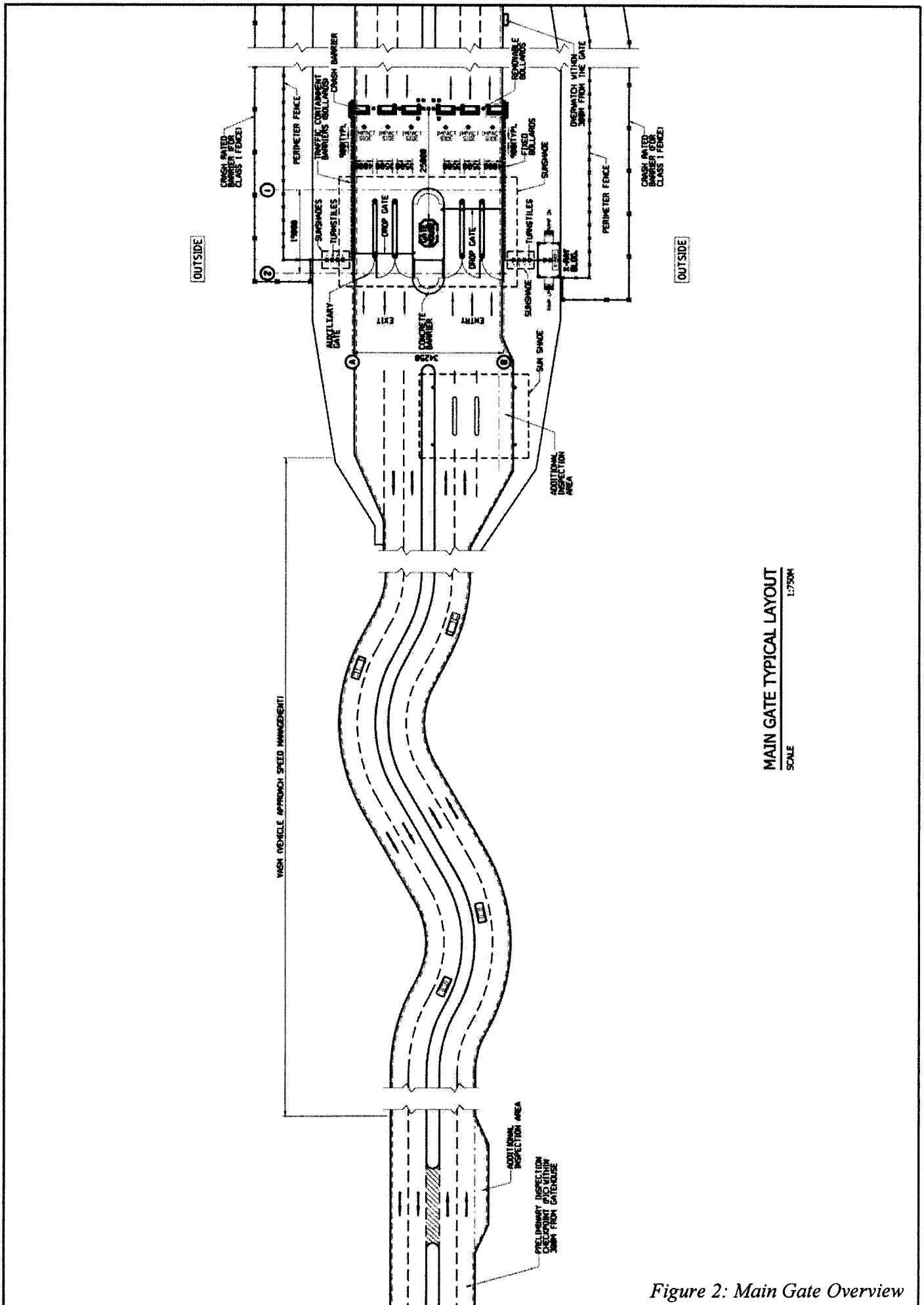
6.0. Sample Drawings

This section contains sample drawings of various aspects of the Security Gate. These drawings are provided as a guideline only. It is up to the Operator to meet the SD requirements.



F.A.L. FINISH ASPHALT LEVEL
 T.O.C. TOP OF CURB
 B.O.P. BOTTOM OF PARAPET
 T.O.P. TOP OF PARAPET
 T.O.F. TOP OF FASCIA

Figure 1: Main Gate Elevation



MAIN GATE TYPICAL LAYOUT
SCALE 1:750M

Figure 2: Main Gate Overview

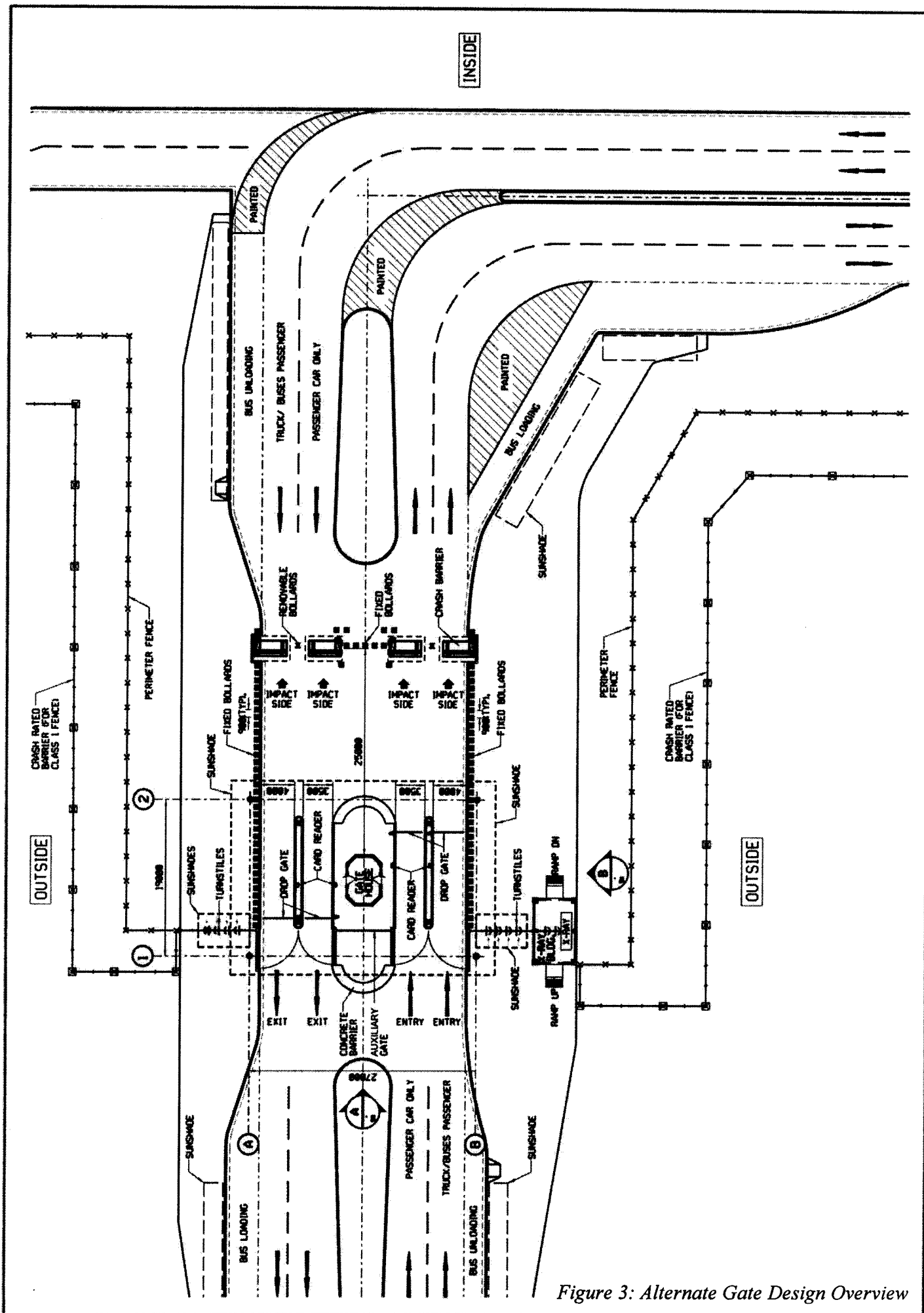
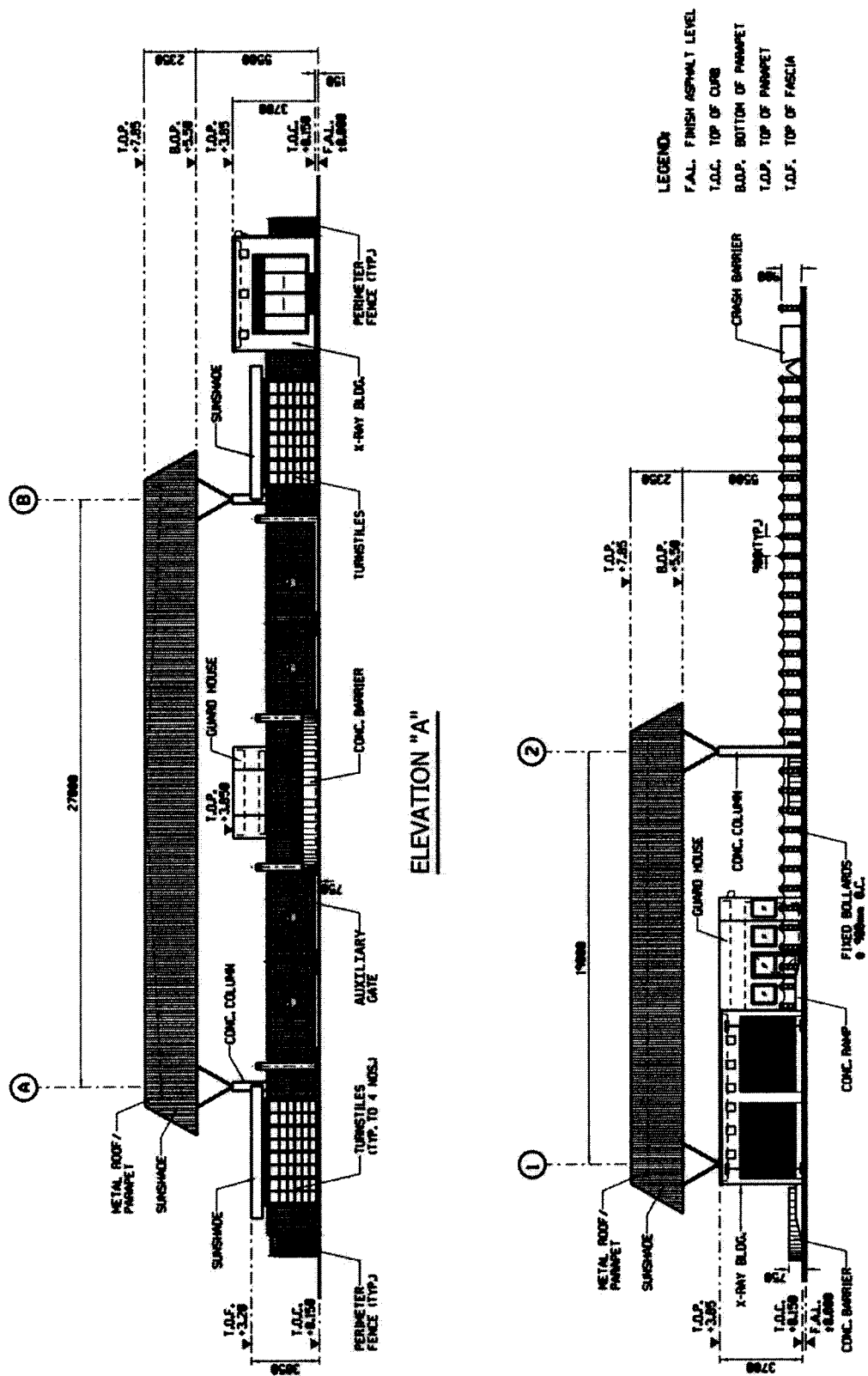
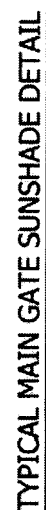


Figure 3: Alternate Gate Design Overview



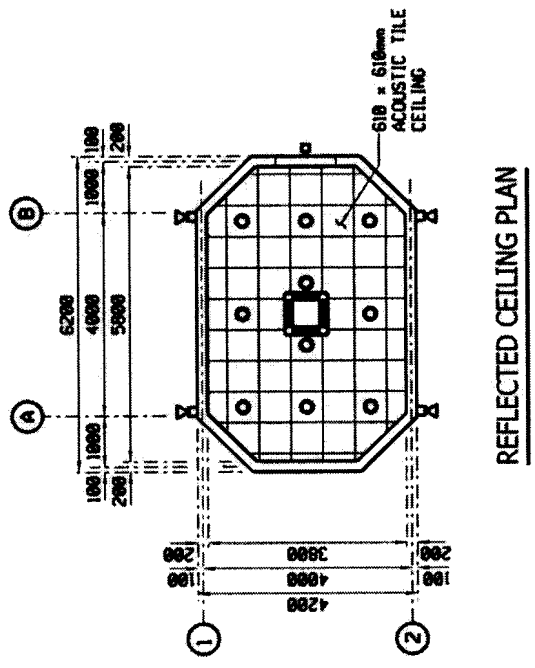
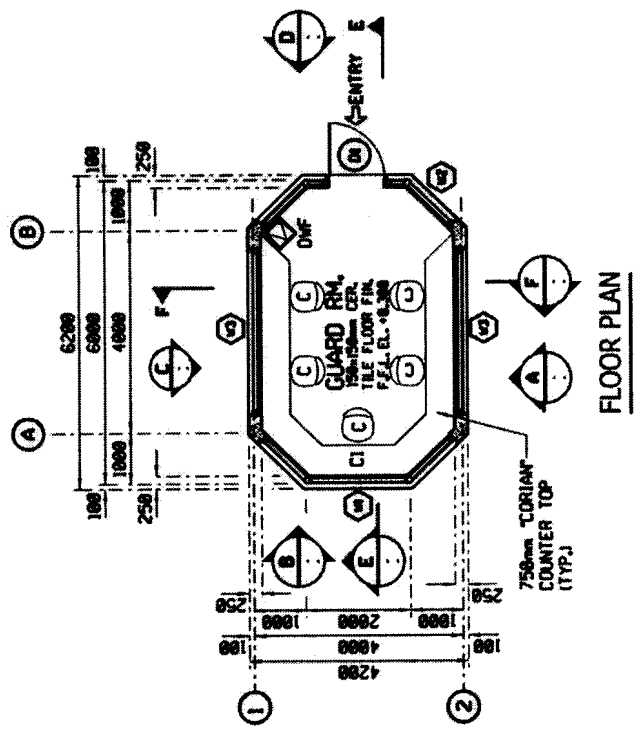
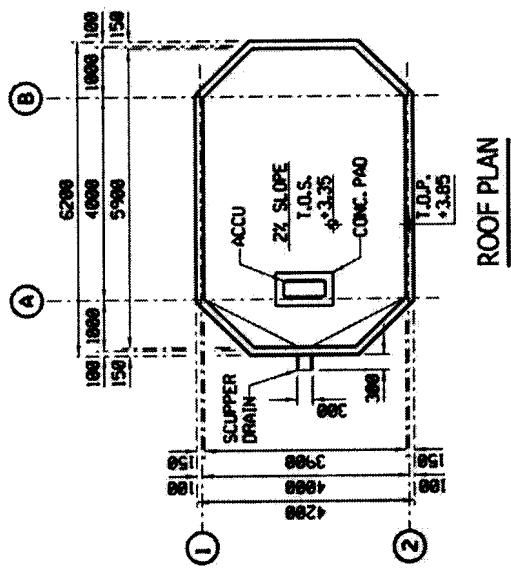
ELEVATIONS - MAIN GATE
 SCALE 1:200M

Figure 4: Main Gate Elevation



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- NOTES:**
1. ALL DIMENSIONS ARE IN MILLIMETERS AND ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.
 2. EL. +0.00 REFERS TO FINISH ASPHALT LEVEL.
- LEGEND:**
- F.F.L. FINISH FLOOR LEVEL
 - T.O.S. TOP OF SLAB
 - T.O.P. TOP OF PARAPET
 - DNF DRINKING WATER FOUNTAIN
 - ACCU AIR COOLED CONDENSING UNIT
 - CI COUNTER - 1 SOLID SURFACE
 - C CHAIR
 - TYP. 150MM. HPS. WEATHER PROOF, WALL MTD. LTG. FIXTURES
 - DOWNLIGHT INDOOR LTG. FIXTURES, 1x100MM, WHITE INCANDESCENT, TYPICAL
 - FLOOD LIGHT FIXTURE, 1x250MM, HPS, TYPICAL WEATHERPROOF
 - FAN COIL UNIT



PLANS - GUARD HOUSE
SCALE 1:100M

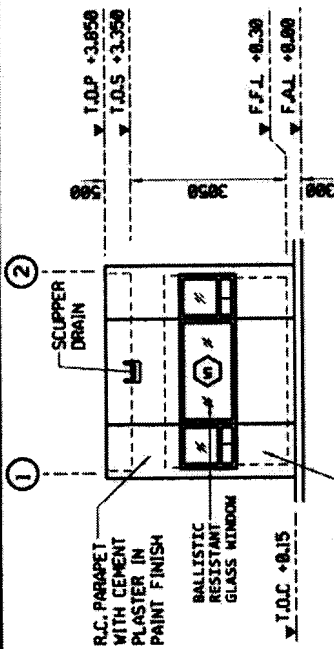
Figure 6: Gatehouse Plan

NOTES:

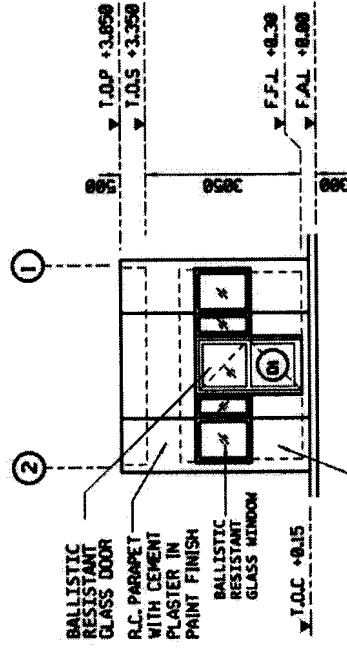
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2. EL. +8.88 REFERS TO FINISH ASPHALT ELEVATION

LEGEND:

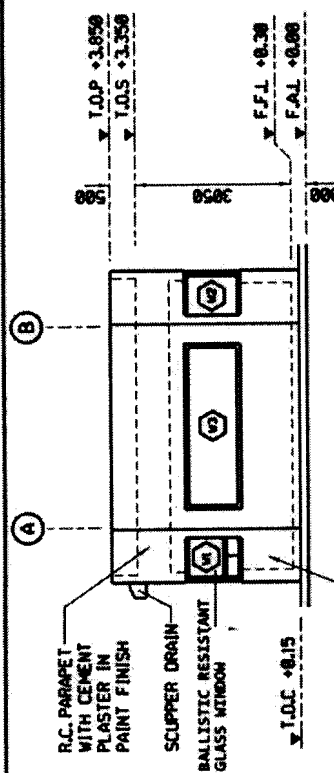
- T.O.P. TOP OF PARAPET
T.O.S. TOP OF SLAB
T.O.C. TOP OF CURB
F.F.L. FINISH FLOOR LEVEL
F.A.L. FINISH ASPHALT LEVEL



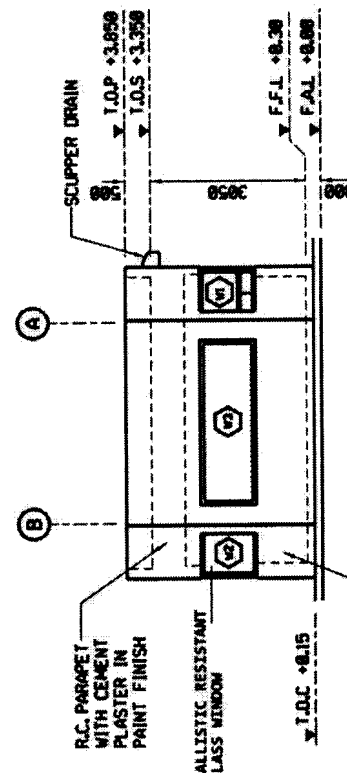
ELEVATION "B"



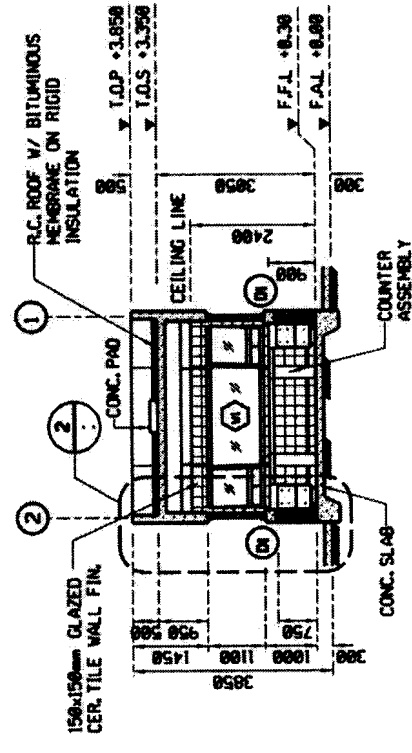
ELEVATION "D"



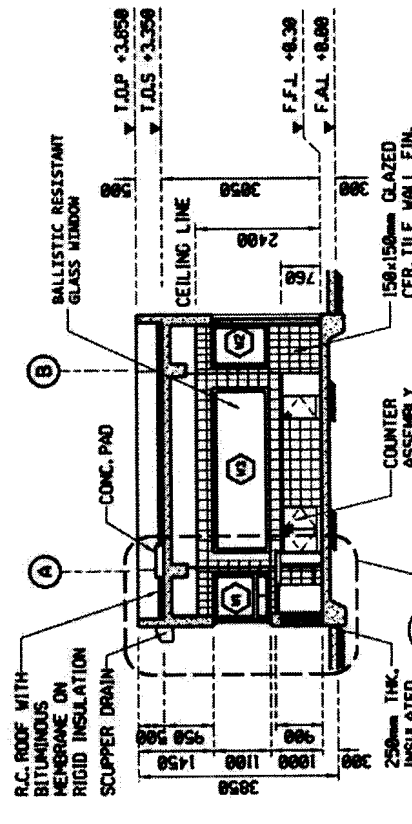
ELEVATION "A"



ELEVATION "C"



SECTION "F"



SECTION "E"

ELEVATIONS - GUARD HOUSE

SCALE

1:100M

Figure 7: Gatehouse Elevation

2. ALL DIMENSION LINES ARE FROM GRID TO GRID AND FACE TO FACE OF CONCRETE MASONRY UNIT (CMU) WALL UNLESS OTHERWISE INDICATED.

F.A.L.	FINISH ASPHALT LEVEL
F.F.L.	FINISH FLOOR LEVEL
T.O.C.	TOP OF CURB
T.O.P.	TOP OF PARAPET
T.O.S.	TOP OF SLAB
B.O.P.	BOTTOM OF PARAPET
∇	LEVEL INDICATION

